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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,542	07/20/2001	James J. Alwan	100718.270	3046
7590	09/04/2003			
Wayne M. Kennard Hale and Dorr LLP 60 State Street Boston, MA 02109			EXAMINER [REDACTED]	GUHARAY, KARABI
		ART UNIT [REDACTED]	PAPER NUMBER 2879	

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/910,542	ALWAN ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Karabi Guharay	2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on RCE filed on 27 May 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 11-18,21-28 and 31-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 11-18,21-28 and 31-46 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on 24 March 2003 is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____                                     |

***Drawings***

The drawings Fig 1(corrected), Fig 3 and Fig 4 were received on 24 March 2003.  
These drawings are approved.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11, 13, 15, 17, 21 23, 25, 27, 31, 33, 35, 37, 39, 41, 43 and 45-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Leroux et al. (US 5534744).

Regarding claims 11, 21, 31, and 39, Leroux et al. disclose a cathode substrate including a substrate 2 (Fig 6) a cap layer (silica layer 4 and layer 52), an anti-reflective coating or light blocking layer (52, here layer 52 is an light absorbing layer, line 35-36 of Col. 6, light absorbing layer does not reflect light thus it is also anti-reflective) included within it (see col. 5, lines 49-50, under layer 52), and an array of emitter tips 12 formed on the cap layer.

Referring to claims 13, 18, 23, 28, 33, 38, 41 & 46, it is noted that the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Claims 15, 25, 35, and 43 are rejected for the same reason as claims 11, 21, 31, and 39.

Claims 17, 27, 37, and 45 are rejected for the same reason as claims 11, 21, 31, and 39.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12, 14, 16, 22, 24, 26, 32, 34, 36, 40, 42, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leroux et al.

Referring to claims 12, 22, 32, and 40, Leroux et al. disclose a cathode substrate as recited in claims 11, 21, 31, and 39 including a substrate 2 made of glass. See col. 1, lines 41-45. Leroux et al. do not disclose a cathode substrate wherein the substrate 2 made of soda-lime glass. The selection of known materials for a known purpose is generally considered to be within the skill of the art. It would have been obvious to use soda-lime glass, for the substrate 2, as disclosed by Leroux et al., because the selection of known materials for a known purpose is generally considered to be within the skill of the art.

Referring to claims 14, 24, 34, and 42, Leroux et al. disclose a cathode substrate as recited in claims 11, 21, 31, and 39 including a cap layer 4. Leroux et al. are silent as to the thickness of the cap layer 4. The specification of a suitable thickness is within the skill of the art. It would have been obvious to specify a suitable thickness for the cap layer 4, because changes in size are generally considered to be within the skill of the art.

Claims 16, 26, 36, and 44 are rejected for the same reason as claims 12, 22, 32, and 40.

### ***Response to Arguments***

Applicant's arguments filed with Amendment C, on March 24, 2003 have been fully considered but they are not persuasive for following reasons:

(1) In response to applicant's first allegation that the cap layer (silica layer 4) as disclosed by Leroux et al. is optional, and thus, claims 11, 13, 15, 17, 21, 23, 25, 27, 31, 33, 35, 37, 39, 41, 43, and 45 are not anticipated by Leroux et al., the examiner respectfully disagrees. Whether or not the silica layer 4 is optional is not germane to the issue of anticipation. Leroux et al. teaches using a cap layer on the glass substrate, thus the fact remains that the subject claims read on FIG. 6, as disclosed by Leroux et al.

The applicant alleges that there is no suggestion by Leroux et al. that the substrate could be soda-lime. The examiner respectfully disagrees. A silica layer 4 on a glass substrate 2, as disclosed by Leroux et al., is conventionally used to prevent sodium diffusion, as evidenced by Lee et al. (see FIG. 3, and col. 7, lines 8-17), and

Kanicki, (page 119, section 3.5.3.1). Consequently, the mere fact that Leroux et al. disclose a silica layer would have suggested to one skilled in the art the use of an inexpensive substrate, such as, a soda-lime glass substrate.

(2) Applicant further alleges that examiner misread lines 49-51 of Col. 5 of Leroux et al. In order to establish that applicant quoted lines 32-51 of Col. 5, and discussing Fig 5, and conductive layer 46 which is not relevant here, since rejection is pointed to the embodiment of Fig 6.

Applicant in the argument admits that the under layer absorbs light. Thus underlayer 52 is considered as a light-blocking layer. Furthermore Leroux clearly states that under-layer 52 absorb light instead of reflecting light (see lines 49-50 of Col. 5, and lines 35-38 of col. 6), thus it is also an anti-reflective layer. Cap layer of Leroux et al. consist of two layers a silica layer 4 and an anti-reflective or light blocking layer 52 on the silica layer, then a conductive layer 5 is disposed on it which is same as applicant's Fig 3 & Fig 4, where cap layer 42 consists of layer 44 and antireflection or light blocking layer 45, on top of which a conductive layer 36 is formed, thus the argument of under layer not being associated with or within cap layer is not valid.

#### ***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure :

Borel et al. (US 4857161); Banno et al. (Us 5525861): glass substrate with silicon-dioxide cap layer.

Cathey, Jr. et al. (US 5866979); Chadha et al. (US 5668437).

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.G  
Karabi Guharay  
Patent Examiner  
Art Unit 2879

*[Signature]*  
NIMESHKUMAR D. PATEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800